

The Planters' Chronicle.

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THE U. P. A. S. I.

(INCORPORATED)

Contents.

The Scientific Assistant of Mysore contributes an interesting account of the life history of the Green Bug, which, coming at this time will be read with interest by all planters, when the pest and the best way to subjugate it, is uppermost in most men's minds. The Planting Expert, in commenting on the Scientific Assistant's writing, draws attention to a paper already published in the *Chronicle*, describing the relation of Ants to Scale Insects. This paper should be read and studied in connection with the Green Bug. He also comments on different Sprayers, and in connection with this, a letter from Mr. Nicholson is published, who is an advocate of brushing rather than of spraying—at all events in its earliest stages. We trust this letter will lead to some discussion on the merits of brushing and spraying.

The Report of the Annual Meeting of the Kanan Devan Planters' Association, which was very well attended, is published.

The Theni Bridge came in for some deservedly outspoken words from the Honorary Secretary, endorsed by the Chairman.

Messrs. Ewart, Maccaughey & Co's Report on Tea is published as being of interest to the Tea Planters of Southern India. The comparison of prices between 1912 and 1913 for May-June shows slightly in favour of 1912, though the fall is but small.

The uses of Rubber appear illimitable. We shall wait the report on the extraction of gas from Rubber which was to have been read in the third week of June, with interest.

We are indebted to the "Rubber World" for an article on Rubber Manuring which gives proportions of artificial manures to be used on various classes of soils.

Members are reminded that the Annual Meeting of the United Planters' Association takes place on the 25th August, and that proposals that they wish added to the Agenda paper should be sent in to the Secretary with as little delay as possible.

Scientific Officer's Papers.**CXIX.—GREEN BUG IN MYSORE AND COORG II.**

The following account of the life history of the Green Bug and its methods of spreading emanates from the Scientific Assistant for Mysore:—

"Scale Insects and Mealy Bugs belong to the order of Insects known as Hemiptera (meaning half wings), or true-Bugs. They are a very low form of life, and consequently differ very much from our ordinary ideas of an insect, and for this reason many people are not familiar with their habits of life. I propose, therefore, to give a short account of the life history of our new pest, popularly called 'Green Bug'; its technical name being *Lecanium viride*. I am not an Expert Entomologist, and must ask you to excuse any of my shortcomings.

"The following life history of Green Bug may be taken to apply to the large majority of other Scale Insects, but not every possible kind.

"Green Bug is bright pale green in colour, with an irregular, but very distinct loop of blackish spots on the middle of the back. The eyes, placed one on each side of the head close to the margin, are a conspicuous black. It is oval in form, rounded behind and subacuminate in front. The back is moderately convex, more particularly in females containing ripe ova. The margin is very thin; the skin is soft and never strongly chitinated. The length varies from 2.50–3.25 mm., and the breadth from 1.50 to 2 mm. The insect is ovoviviparous, the eggs being hatched almost at the time of, or immediately after, exclusion. The adult female becomes filled with eggs and their bodies shrivel up as these are laid until the insect dies. The male is unknown in India or Ceylon, and the species is reproduced by a sexual process.

"Let us follow the life of the insects from the time of being hatched. On hatching they appear as minute insects oval in shape, and in colour almost a transparent white. They are provided with three pairs of legs, which enables them to travel very rapidly. The head is provided with a pair of minute eyes and a delicate sucking apparatus. In this stage they walk about on a plant seeking for a suitable spot in which to insert their suckorial threads. They are able to crawl a considerable distance over the plant on which they were born, and also over the soil and on to another plant. On finding a suitable place on which to settle down, the insect inserts its sucking apparatus to get at the sap of the plant upon which it lives. It then becomes fixed and does not move again; it drops its legs for which it has no further use and grows rapidly larger.

"The second stage of the female is similar to the adult, but smaller and flatter, and without the blackish loop noticeable on the back of the adult. The insects in all stages are crowded on the under surface of the leaves, and on the young shoots of the plants, but more frequently on the midribs and veins.

"Green Bug is very apt to be confused with what is called Green Mealy Scale, or *Pulvinaria psidii*, by those who are not acquainted with it.

"The following two great distinctions, if kept in mind, will soon settle any doubt; (1) Green Bug at no stage of its existence makes wax, while the Mealy Scale does. (2) Green Bug has a distinct loop of blackish spots on the middle of the back, while the Mealy Scale has not.

"The Bug was originally found on both Arabian and Liberian Coffee, but has since become almost omnivorous.

"In Ceylon, as most of us know, it was partly responsible for the final abandonment of Coffee. True the Coffee previous to the invasion had been weakened by long and continued attacks of 'leaf disease' (*Hemileia vastatrix*).

It must not be thought that no efforts were made to check the invasion because there were. The fact was, the insect being so inconspicuous by reason of its colour and small size, that it was not noticed until it had established itself in sufficient force to defy all efforts at extermination.

"The bug attacks both vigorous and weakly trees, but the damage done in the two cases is markedly different. Leaves of vigorous trees may be thickly infested by the insects, and blackened by the consequent fungus, but they do not fall off, neither does the tree sicken; it continues to make fresh growth and the tree on the whole retains a fairly healthy appearance. The contrary is the case with weakly trees, nearly all the leaves fall off in badly infested cases, in fact the tree sometimes becomes practically denuded. The shoots become dry and no fresh wood is formed. This naturally in the case of Coffee results in a total loss of crop.

"The ways and means by which Green Bug may be distributed are many. The insect when young is able to travel very rapidly. When plants are packed, or growing close together, it is very easy indeed for a healthy plant to become infected through contact, or close proximity to, a scale-infested one. These small insects may be carried considerable distances by wind or water, or by becoming attached to the feet and bodies of birds. It is also very easy for them to be carried on the fur and horns of deer and Sambhur, and also on the feet and bodies of monkeys. Further it is possible for coolies to carry the scales from place to place on their cumblies, and last but not least, Ants are greatly responsible for the distribution of the scales. Most scale insects excrete a sweet sticky fluid, on which many kinds of Ants feed, and it will be noticed that most plants attacked by scales are found to be infested by Ants of some sort. These Ants take care of, and tend, scales much in the same way as man tends cattle. They carry the young scales from place to place and when the weather becomes unsuitable and the scales would suffer, they shelter the young and eggs in their nests, and some species of Ants build mud shelters over the scales on the leaves or shoots. If during the monsoon the nest of the common Red Ant be dug up one will invariably find the young and eggs of some scale insect which they have put there to protect from the wet and cold, and not for food purposes as in sometimes erroneously supposed. After the monsoon, when the weather becomes favourable, the Ants bring out these young and eggs of the scale insects and place them in suitable spots on the tree where the young can feed and the eggs become hatched. Amongst the most common offending Ants which protect scales are the common Red Ant and the little Black Ant which carries his abdomen turned up over his back."

Any organised method of control must take into consideration the part Ants play in the distribution of the scale. In Sc. O. paper 110 (P. C. Vol, VII, p. 580) the relations of Ants to scale insects was described, and this paper should be consulted. One of the main difficulties encountered when trying to rid an estate of Ants is that these insects get up into big shade trees and it is impossible to dislodge them. It is probably for this reason that the Coffee under big trees is usually the most badly infested with Scale insects. It is possible that such trees might be grease banded to keep the Ants from passing freely up and down, and it is proposed to experiment

with this method. Material for the purpose can be obtained from Messrs. Walter Voss and Co., Ltd., Carlton Chemical Works, Millwall, London E. C.

Some complaints have been received that the spraying mixture of Rosin, Soap, and Soda which has been recommended is difficult to make and unsatisfactory. This is probably due to the fact that the wrong kind of Rosin is being used. It must be good *English Rosin* and not the stuff obtained in the bazaar. Native Rosin made from local trees is apt to contain gummy matters which do not completely dissolve in the water and soda and so clog the nozzle of the sprayer.

Very varying reports reach me as to the best type of sprayer to use. While some planters condemn the usual form of Knapsack sprayer which has to be pumped, as being too heavy and cumbersome for the coolies, others say that they have no difficulty with it. The way to use such a sprayer is to turn off the tap at the base of the nozzle rod and pump till a pressure is obtained. Then the sprayer should be put on the back, the tap opened and the pressure maintained by an occasional motion of the pump handle. This procedure is in fact much the same as that adopted by a bagpipe player. If a difficulty is still found in using this type of sprayer, a pressure sprayer of the 'Holder' type should be adopted. In this form of sprayer a pressure is got up first of all which is sufficient to empty the machine without any further pumping.

The Green Bug is a most omnivorous scale and has been recorded to attack the following long list of plants, and a watch should be kept for it on almost everything. Coffee, both Arabian and Liberian; Cinchona, *succirubra* and *officinalis*; many species of Citrus; occasionally on Tea; Guava; Ceará Rubber; Tapioca; Gardenia; Ikora; Plumeria and many garden shrubs; also on Spanish Needle, *Antidesma bunius*, *Hiptage madagascariensis*, *Cadicarpa lanata*, *Moesa indica*, and several species of *Loranthus*.

RUDOLPH D. ANSTEAD, *Planting Expert.*

CORRESPONDENCE.

Coonoor, S. India, 10th July, 1913.

Green Bug Brushing and Spraying.

Dear Sir,

I know of few advocates amongst Planters for spraying, but many for brushing. Long before Mr. Brown I sprayed with Soda and Rosin amongst many other things and found spraying hopeless so long as bug retained its spreading power, but now that it has lost that I am myself reverting to spraying, when and where I cannot get enough labour to brush during the early months of the year, when it is urgently required to destroy the first appearances of the bug on the tips of the branches. I would recommend reference to the following successful gentlemen for their opinion as to the merits of brushing and spraying. Mr. Bake of Colakamby Estate, Colakambav P. O. Nilgiris.—Mr. Rogers of Adderley Estate, Coonoor, and Mr. W. Deane of Kotagiri, Nilgiris.

Ants require as much attention as the bug. The fact that green bug begins on the tips of the branches and nowhere else is what makes brushing such a success.

Yours faithfully,

(Signed) A. G. NICHOLSON.

DISTRICT PLANTERS' ASSOCIATION.**Kanan Devan Planters' Association.**

Proceedings of an Annual General Meeting held in the High Range Club, Munnar, on Saturday, June 31st, 1911.

PRESENT.—Messrs. C. Fraser (in the Chair), W. O. Milne, J. M. Bridgman, M. C. Koechlin, A. J. Wright, H. L. Pinches, W. J. Dixon, A. W. John, W. L. Ranking, J. C. Swayne, J. H. Jeffrey, S. H. Paulet, J. S. B. Wallace, W. Fraser, V. L. W. Wright, C. E. L. Ward, G. E. Bewley, Dr. J. S. Nicolson, Messrs. L. H. Ley, J. S. Hawkins, A. G. Murray, and E. A. Hughes (Honorary Secretary). *By their proxy, Mr. E. A. Hughes.*—Messrs. J. C. Abbott, A. H. Gerrard, D. Mackintosh, N. J. Strachan, F. E. Thomas, F. R. Westbrook, and A. W. L. Vernede. *Honorary Member. Visitors.*—Messrs. E. L. Koechlin, G. A. Holden, C. H. Mitchell, L. H. Jacob, K. M. Ross, J. W. Tolson, A. M. Todd, J. Ewart Vernede, Arthur Hall, D. V. Crowe, R. Brown, L. G. Bennett, Fraser, Strachan and Meade.

The notice calling the Meeting having been read, the minutes of the Bi-Annual Meeting and the 2 Extraordinary General Meetings having been printed and circulated, were taken as read and approved.

The following Agenda was then laid on the table:—

- (1) Chairman's Speech
- (2) Honorary Secretary's Report
- (3) Accounts
- (4) Labour Laws
- (5) Post Office
- (6) Theni Bridge and Cumbam Valley Light Railway
- (7) Game Laws
- (8) Scientific Officer
- (9) Bangalore Delegate
- (10) The Lady Amphill Nursing Institution Fund
- (11) The S. I. P. B. Fund
- (12) Licensing Laws (Arms)
- (13) Correspondence
- (14) Election of Office-bearers.

On opening the meeting, the Chairman said he was very pleased to see so many members present. As there was a very long Agenda he asked the permission of the Meeting to take the 2nd item of the Agenda first. He did not wish to make a long speech, and he felt the Honorary Secretary's report which was a full one, would explain the Association's work for the past year very clearly. If, after it had been read, there was anything he wished to make any remarks on, he would do so. This was agreed to.

The Honorary Secretary read his report as follows:—

Mr. Chairman and Gentlemen,—As we have a lengthy agenda before us, I shall make my report as short as possible in submitting a summary of subjects dealt with during the year by the Association. I regret, I am not able to give figures showing the various acreages under cultivation at present, as all the Totes have not yet submitted their returns. As far as I know, there has not been a large increase in cultivation. Crop of tea from the district was 8,659,039 lbs. as against 8,204,696 lbs. This is an increase of 5.02% and a record, which is very satisfactory, especially as about 2,000 acres

plucked, are not in full bearing yet. It represents an average yield of 650 lbs. all round, as against about 500 lbs., the average Indian yield. The other products Coffee, Cinchona, Camphor, Cardamoms and Rubber are all progressing satisfactorily, and giving good results. I am glad to report, that the year under review has been a very successful one. The average price obtained for the teas has been well maintained, and the result has been very satisfactory to all concerned. From recent reports, it appears that the market is beginning to recognise the value of the high grown Travancore teas. I trust this will be reflected in the prices we shall in future obtain for them.

During the year 9 Committee Meetings, Bi-Annual General Meetings and 3 Extraordinary General Meetings were held.

There is a proposal for discussion and settlement with regard to the local Labour Law.

Medical grants were regularly paid by the Government, and we are very grateful to H. H. Government for their generosity. Efforts have been made to obtain further grants to meet the additional expense incurred by the Companies in the expansion of, and addition to, their local dispensaries, but so far I regret to say without success. We will live in hope that the Government may in time see its way to help us further in this direction.

It is now 8 years since the question of the Theni Bridge was first seriously taken in hand. I regret to say that the condition of things is, if anything worse than ever. The bridge has been partly constructed, fell down, was re-erected, again collapsed, and a very large sum of money has been wasted. The Authorities have now decided that the materials used so far are unsuitable, and they are at present, I believe, engaged in blowing up the bridge as it stands. It is satisfactory to note, that a further sum has been sanctioned by the Local Board, and we can only hope that the Local Board Engineers in view of their previous experiments, will be able to construct a bridge that will stand. So far I consider, and I am sure you will all agree, the work reflects most discreditably on all concerned.

Strenuous efforts have been, and still are being made, to obtain sanction for the construction of the Light Railway from Kōdiñānāl Road to Kuruva-nooth. We have decided to send a Deputation to the Government of Madras, with a view to getting them to help us, and the Peermade Planters' Association has agreed to join. I have so far been unable to obtain the figures of the recent traffic survey carried out by Mr. Graham. I have also since been informed that Messrs. Binny and Co., Madras, have approached Government with a view to obtaining a concession for constructing and working this line. I have written to them for information, and I think you will agree it is no use approaching the Government, unless we have the fullest possible information.

There are at present 35 Estates on the books paying a subscription of Rs. 10 each and a cess of 2 annas per acre on cultivated area and cultivated timber. Later, we have to discuss ways and means so that the expenditure and income of the Association shall balance. I regret to say that during the year under review, expenditure exceeded income to a small extent. When going through the accounts, I will explain how this has happened, and we shall be able to arrange that it shall not recur in future.

I am pleased to be able to report that our Postal Service has at last been placed on an efficient and thoroughly satisfactory basis. For this we have to thank Mr. S. Varada Charya, the District Superintendent of Post Offices, who has been unremitting in his efforts to help and satisfy us in this direction.

We had the pleasure, not long ago, of welcoming Mr. R. D. Anstead, Scientific Expert. Although we have not yet received his full and detailed report, what he told us was most interesting, and has given us all a good deal to think about. His suggestions on all points he discussed, were most interesting and sound, and if carried out, will improve our local conditions generally.

The Law for better protection of Game is making steady progress and is receiving the most careful consideration of the Government. I hope when it finally takes shape and becomes law, it will be satisfactory to us all.

The Association paid its subscription to the Lady Amphyll Nursing Institute, and I believe, many members received considerable benefit from its working. There is a proposal, I believe, to have a local Nurse, and this should be decided this afternoon as the subscription for the coming year is now due to be paid.

Mr. Wright was our Delegate at the Sri-Mulan Popular Assembly and his efforts to forward our interests were most successful. We are all very much obliged to Mr. Wright for his good work, and I hope you will confirm this later when his report will be read to you. We have decided to ask the Government, not to legislate further with regard to our Estate labour. With one exception, all the Associations in Travancore, are of the same opinion, and I have written to those in sympathy with us, with a view to submitting a united protest to Government.

The Association was instrumental in obtaining help for a brother planter from the S. I. P. B. Fund. It is gratifying to report that very much more generous support was forthcoming this year, for this very deserving Fund. I have the honour to be one of the Finance Committee responsible for the working of the Fund, and I am pleased to be able to say that the Fund has been now put upon a sound financial footing.

During the year, I had the honour of attending the U. P. A. S. I. Meeting as your Delegate. I have already given you the details as to what took place and the proceedings have been fully printed in detail.

It is satisfactory to note that the Government have at last arranged an Imperial Committee to endeavour to settle the vexed question of Weights and Measures.

My efforts in endeavouring to press forward the subject of Roads and Railways appears to be bearing fruit, in so far as I have before stated, the S. I. R. are now apparently willing to allow private enterprise to undertake the construction of the line in which we are most interested.

I also had the honour of being elected on a Special Committee to consider Mr. Marden's Finger Print Registration Scheme. The object of the Committee was to endeavour to harmonize the views of the various Associations, and draft some feasible scheme. I am afraid this is impossible, and some other Members of the Committee are of the same opinion. Some Associations, ourselves included, will have none of it, others are lukewarm, and the opinions of those willing to try it, are hopelessly at variance.

My Resolution which was carried with reference to the voting power of the various Associations placed them all on an equal footing.

I had the honour of being elected Vice-Chairman and to the Finance Committee of the U. P. A. S. I., an honour which I greatly appreciated, and which, at the same time I feel, reflects greatly to the credit of our Association. The U. P. A. S. I. accounts which had been allowed to get

somewhat behindhand, are now being kept up to date, in a thoroughly business like way. I trust my efforts to forward our interests will be considered satisfactory.

I have nothing further to say, Gentlemen, and in placing my resignation in your hands, I sincerely regret any sins of omission or commission. I beg to thank the Chairman, Committee, and all Members very heartily for the ready help they have afforded me in carrying out my duties, and also for the honour they did me in electing me as their Delegate at Bangalore.

The Chairman then said:—It is now my pleasant duty having heard Mr. Hughes' very full and detailed report of the year's working, to move a very hearty vote of thanks to him, both for it and for the work he has done for the Association during the past year. It is sometimes thought that the position of Chairman of an Association like ours, entails a good deal of work, but I can assure you, in this case it is not so, thanks to Mr. Hughes' energy. I am sure you will all agree that the work of the Association has been carried on most effectively, and its interests most carefully looked after. Mr. Hughes had worked very hard, and I am sure has given entire satisfaction to us all. The vote was carried unanimously.

The Chairman continuing said he had not much more to say in view of the very interesting report they had all just heard. The past year had been a successful one, and he hoped this would long continue. He endorsed every word of Mr. Hughes' strictures with regard to the work done on the Theni Bridge, and he was sure all agreed with him. He was pleased to note that there was likelihood of this important and much needed work being successfully finished shortly, and also that there was a possibility of the construction of the Light Railway from Kodikanaal Road to Bodinayakanur being taken in hand without much further delay. The Association, in conjunction with the Peermade Planters' Association, intended to approach the Madras Government, and he hoped this would result in sanction being obtained to have the work started.

The question of further Labour Legislation was a very serious matter and he trusted nothing would be done without the most careful forethought and consideration. He would not detain them longer and proposed that the next item on the Agenda be taken up.

Mr. Hughes then explained the increased expenditure which had slightly outgrown the present income of the Association. After some discussion, it was decided to refer the matter to a Special Committee consisting of the Chairman, Honorary Secretary, and Messrs. H. L. Pinches and A. J. Wright.

Mr. Hughes asked the Association to accord a very hearty vote of thanks to Mr. Ingram for having audited the Association accounts. This was seconded by Mr. Koehlin and carried unanimously.

The Financial Statement was considered satisfactory and passed.

Mr. Swayne's letter with reference to the amendment of the local Labour Laws, was then read. After some discussion, Mr. Swayne agreed to withdraw his proposal.

The Association again finally decided not to support Mr. Marden's Finger Print Registration Scheme.

A letter from the Honorary Secretary of the Nilgiri Planters' Association, suggesting a scheme for the "General Registration of Kanganies"

was then read. The Association while approving generally of the idea, decided to refer it to a Committee for consideration and further report.

Mr. Wright then moved the following Resolution:—

"That this Association wishes to place on record its appreciation of the services rendered to the District by Mr. N. S. Varada Charya, B.A., the S. P., Madura Division by the introduction of the new arrangements for the conveyance of Mails by Ropeway and Tramway, and to express the hope that the Government may be pleased to retain him in his present office, so that this district may continue to have the advantage of the extensive knowledge of its requirements, which he has been at so much pains to acquire, and that copies of the Resolution, if passed, be sent to him and to the Postmaster-General, Madras." This was seconded by Mr. Koechlin and carried unanimously.

The Chairman then moved: "That the Hon. Secretary be requested to write to the S. P. O., and request that a service be established between Surianalle Post Office and Devicolam Cutcherry." He explained that at present a letter from Surianalle would have to go to Bodi, up to Munnar, and on to Devicolam and vice versa. He thought, it would be possible to arrange for a direct runner for the short distance between Devicolam and Surianalle. The Resolution was agreed to, *nem con.*

The Chairman said he had nothing to add to what had been already said with reference to the Theni Bridge and the Cumbum Valley Railway, but he hoped shortly to be able to inform them that real progress was being made with both.

The Hon. Secretary read a letter from the Chief Secretary to Government, stating that the game Preservation Amendment Bill had been recommended to a Second Select Committee, and that further progress would be published in due course in the Government Gazette. Mr. Hughes then proposed "That the Planting Expert be made an Hon. Member of this Association." This was seconded by Mr. Pinches, carried *nem con.*

The Chairman then proposed that Mr. Hughes be re-elected as the Association Delegate at the U. P. A. S. I. Conference. He felt that in view of the good work done by Mr. Hughes last year and the very able way in which he had represented their interests, they could not do better than again appoint him. This was agreed to unanimously.

Mr. Hughes thanked the Chairman and the Members for the honour they had done him in again re-electing him.

The question of continuing to subscribe to the L. A. N. Institution, was discussed. It is proposed to arrange, if possible, for a resident local Nurse. The Hon. Secretary pointed out that the Association could not afford to pay her salary from its funds and special arrangements would have to be made. After some discussion it was decided to continue the subscription to the L. A. N. I. for another year, and refer the question of the local Nurse to the Committee for arrangement.

A subscription list for the S. I. P. B. Fund was passed round, and Rs. 175 was subscribed.

Mr. Wright then read the following report of his attendance as Delegate to the Sri Mulam Popular Assembly:—

Mr. Chairman and Gentlemen,--I beg to submit the following report of my attendance at the Ninth Session of the Sri Mulam Popular Assembly from your Association.

The Assembly opened at noon on Wednesday, the 12th February 1913 with an address by the Dewan of Travancore, a copy of which (Encl. A) is submitted to you herewith. The Assembly then adjourned until 11 a.m. on the following day, when the ordinary business was taken up. I enclose copies of the Programme of Business (Encl. B) and of the Schedule of subjects (Encl. C.) for your information.

The subjects upon which I was instructed to make representations to the Assembly were reached on Saturday the 15th ultimo.

1. The desirability of certain amendments to the Game Preservation Regulation III of 1073.

On this subject, I carefully enumerated the proposals contained in your letters of the 12th and 23rd June, and 2nd November 1913 to the Chief Secretary to Government, laying particular stress on the request that the Game Committee of this Association should be empowered to supervise the working of all Licenses granted within their area, it being understood that the District Magistrate and Superintendent of Cardamom Hills is a Member of that Committee.

My principal point was our desire for the fullest possible protection for Fish in view of the local efforts to establish Trout in the district, and in this connection I quoted some figures kindly placed at my disposal by the Honorary Secretary of the Angling Association. The Dewan was most interested in this subject and put several questions.

The whole representation was most cordially received, and in reply the Dewan promised to place all the proposals before the Legislative Council, which is now considering the amending Regulation.

2. The necessity for amending Section 4 of the Breach of Contract Regulation II of 1080 and the undesirability of any addition to the existing Labour Laws.

I found that the necessity for the amendment above referred to, was fully recognized, and that the matter had already been before the Legislative Council, and therefore confined myself to the form of the proposed change.

a. The best amendment being a 3 months' limit from the termination of the contract.

b. As an alternative:--A provided contractor having defaulted by failing to commence work on proper date or by failing to supply a proper number of coolies, ratifies his contract later with the consent of the Contractee, he must be considered to have legally ratified it and so become liable to prosecution for subsequent default even though the 3 months have elapsed since his first default.

I dwelt particularly on the point that we feared the effect of changes in legislation upon recruiting, and emphasised the peculiar situation of this District i.e., situated in Travancore but procuring the whole of its labour from British India.

It is very evident that the Government contemplate a move in this direction, and at the conclusion of my remarks, the Dewan called upon the representatives of the Central and Mundakayam and of the South Travancore Associations for their opinions. Both were without instructions, but while recognizing the exceptional position of this Association, expressed their personal opinions that further legislation was necessary, and when pressed stated that it was chiefly required to prevent inter-estate crimping.

In reply the Dewan said there was no need to legislate for people who did not want legislation, and that in any steps taken, it might be possible to leave this district alone.

It seems to me from what I learnt in Trivandrum, that legislation is imminent, and I would press upon your Association the need for carefully considering the position and for getting into touch with and comparing views with the other Associations in Travancore without loss of time.

I trust that the representations made will meet with the approval of your Association and prove to have been of use.

I also submit a copy of the 'Report' on the Administration for 1087 M. E. (1911/12) (Encl. D).

The Chairman proposed a hearty vote of thanks to Mr. Wright for the trouble and care he had taken, and this was carried unanimously.

The U. P. A. S. I. Circular No. 10-13 with reference to the U. P. A. S. I. Exhibition to be held in Bangalore, was read, and it was decided to support it and send exhibits.

The U. P. A. S. I. Circular No. 8-13 with reference to the Indian Post Office Rules, re Tea Samples, was read.

Read letters between the Honorary Secretary and the Superintendent of Anchal Post Office. The Association agreed to support the Anchal Post as far as possible.

Read letter from Hon'ble Mr. E. P. Barber, re the European Defence Association. After some discussion, it was decided to refer the matter to the Committee for consideration and further report.

The Chairman, the Honorary Secretary, and the Committee then resigned, and Mr. Wright was voted to the Chair during the ballot for the new members, which resulted as follows:—

Chairman	...C. Fraser, Esq.
Honorary Secretary	...E. A. Hughes, Esq.
Committee	...Messrs. H. L. Pinches, A. J. Wright, M. C. Koechlin, J. M. Bridgman and W. J. Dixon.

Papers on the Table—The U. P. A. S. I. Circulars, the Indian Tea Association Circulars, Copies of letters, &c., &c., Association Books, &c., &c.

A vote of thanks to the Chair terminated the proceedings.

(Signed) C. FRASER,
Chairman.

(Signed) ERNEST A. HUGHES,
Honorary Secretary.

TEA.

Messrs. Ewart, Maccaughey and Co., Ltd., report from London, 10th June, 1913, for May:—

QUANTITY OFFERED IN PUBLIC SALES.

		1st to 31st May.	
		1913.	1912
Indian	...	53,868 packages	46,675 packages
Ceylon	...	110,648 "	82,370 "
Java	...	440,879 "	14,413 "
		605,395 packages	143,458 packages
		1st June to 31st May.	
		1912-13.	1911-12.
Indian	...	1,821,125 packages	1,674,209 packages
Ceylon	...	1,298,915 "	1,156,120 "
Java	...	230,477 "	158,159 "
		3,350,517 packages	2,988,528 packages

Indian.—With the Whitsun holidays absorbing a good portion of the month only three small auctions were held, the offerings having dwindled even more rapidly than was expected. The opening showed a very strong market all round and the final Assam invoices in particular met with general appreciation. With a well-sustained export demand, the more stylish among Sylhet and Cachar Pekoes were also doing well, and the supply becoming, of course, more limited with every day, prices in many instances showed smart advances. Sound common leaf, too, was on the up line with anything like fair make in leaf becoming increasingly difficult to find, excepting among an occasional early invoice. Fair-leafed Pekoe Souchong could hardly be quoted under 7½d. per lb. and up to 7½d. per lb. or 7½d. per lb., the demand ran very strong. Among red teas, while the stand-away invoices were nearly always sure of a good reception, those which just fell short of what was wanted were irregular and valuations naturally very uncertain. The poor stalky kinds were generally started with all sorts of tentative bids, and as often as not there was no suggestion of a bid at all, and this led to a good deal of taking out. There was, however, in most cases some sort of improvement after the auctions when buyers had the opportunity of having another look at them. All good liquoring Fannings and Broken teas were making very high prices, and where there was real fun, rich, cold-weather character buyers did not seem to mind what they paid. A fair amount of market business has been put through, and those dealers who were lucky enough, or astute enough, to hold stock over and above what they required were enabled to obtain useful profits. In plenty of cases, however, they were chary about selling and preferred to hold on to what they had rather than take any risk of being left short before suitable new season's teas begin to come along.

The light auctions with which the present month opened showed a fairly steady market taking into account how very mixed in character were the offerings. There was a large proportion of Travancore, mostly rather ordinary as regards quality, which resulted in quotations being a little irregular. A few good class Assams made satisfactory prices. New season's Darjeelings from Bloomfield and Moondadotee realised fair averages, but quality was not greatly faulted.

The Indian Sales during the month were made up as follows :—

	Pkgs.	A. Price.		Pkgs.	A Price.
	1913.			1912.	
Assam	...	11,313	9½d	...	19,010
Cachar and Sylhet	...	21,570	5½d	...	5,460
Darjeeling and Terai	...	64	7d	...	482
Dooars	...	9,147	8½d	...	8,524
Sundry, Travancore, &c.	...	7,535	8½d	...	5,965
On Shippers' and Second Hand Account	...	4,239	—	...	7,234
		<u>53,868</u>			<u>46,675</u>

Average price of Indian Tea in Public Sale during the month 8½d. against 8½d, last year.

Average price of Ceylon Tea in Public Sale during the month 9½d. against 9d, last year,—*Capital*,

Notice.

Mr. R. G. Foster, who attended the last quarterly meeting of the North Mysore Planters' Association held on the 4th June, wishes it to be noted that he abstained from voting either "for" or "against" the Madras Labour Act.

W. H. REED,

Honorary Secretary.

North Mysore Planters' Association,

RUBBER FROM GAS.

At the time of the so-called "scare" with regard to artificial rubber, the Company for the manufacture of which vanished into the realms of silence since its launch upon the world with the *eclat* of Professor Ramsey's name, it will be remembered that the secret of artificial rubber manufacture was described as the polymerization of isoprene. Isoprene is a complex hydrocarbon, the simplest form of which is butadiene. In an announcement which we print elsewhere, it will be seen that from recent researches this latter product has been evolved from coal in the course of gas production. By its polymerization rubber is said to have been produced; but as no cable news on the subject has come to hand, we presume it has not excited the rubber world at home as much as the discovery with which a financial flotation was connected not long ago. Full details were apparently to be made known at the meeting, the third week in June, of the Institution of Gas Engineers, which was to celebrate the 50th anniversary of its foundation. We look forward to fuller details, perhaps by next mail.—*The Ceylon Observer.*

RUBBER.

Manuring of Rubber.

The following is taken from the "Rubber World."—"As to the quantities of fertilising ingredients to be applied to rubber plantations, this depends not only upon the different requirements of the rubber trees at their various ages, but also upon the condition of the soil. It is difficult, if not impossible, to lay down a hard and fast rule on this question. The amount per tree will vary according to its kind, age, &c. The amount per acre of plantation cannot be given with accuracy, as the number of trees planted in that area will vary in different plantations, or the trees may be planted closer together in some parts of the plantation than in others. For plantations on fair average soils, showing neither a marked excess nor a marked deficiency in any of the three fertilising ingredients—nitrogen, phosphoric acid and potash—the supply of plantfood may be considered well balanced if these fertilising ingredients are applied in the proportion of 1 part nitrogen, 1 to 1.5 parts phosphoric acid, and 1.5 to 2 parts potash; and therefore, for trees old enough to be tapped, which require about 40 lbs. nitrogen, 60 lbs. phosphoric acid and 70 lbs. potash per acre, the following mixture may be safely recommended to ensure good results:—1½ cwt. nitrate of soda, 1½ cwt. oil cake 3½ cwt. basic slag (or 1½ cwt. concentrated superphosphate), 1½ cwt. muriate of potash

"Where, however, plantations are laid out on poor soils, the above quantities should be increased by one-half; and a similar increase is advisable as regards the potash supply on light soils, whereas on strong soils—which are, as a rule, poor in phosphoric acid and lime—5 cwt. basic slag per acre will meet the requirements of the rubber tree better than either of the phosphatic dressings suggested above. Furthermore, if the trees show a good leaf growth, the nitrogenous dressing may be decreased by one-third, whereas if the leaf growth is weakly, better results will be obtained by increasing the nitrogen supply one-third. As to the manuring of young plantations, the planter will be well advised to make use of the nitrogen collecting power of leguminous plants, which, grown between the rows, and forked in when they are in flower, are able partially to meet the young rubber trees' requirements for nitrogen. In order to enable the leguminous plants to develop vigorously, and to accumulate an increased quantity of nitrogen, it is, of course, necessary to manure them with phosphoric acid and potash, say, 2 to 3 cwt. basic slag and ½ to ¾ cwt. muriate of potash per acre. Such 'green manuring' may be practised as long as the growth of the leguminous plants does not hinder the roots of the rubber trees in their proper development. 'Green manuring' will not, however, supply all the nitrogen required, and a dressing of nitrate of soda must subsequently be given. When green manuring is not adopted, all the nitrogen has to be supplied by means of artificial manures. Young trees should receive, during the first year, a manuring with ½ oz. of nitrate of soda, ½ oz. oil cake, 1½ oz. basic slag, or ½ oz. concentrated superphosphate, and ½ oz. muriate of potash per tree, these quantities to be doubled from year to year till the trees are fit for tapping, when the full manuring suggested above may be adopted, annually. The artificial manures are to be sprinkled around the trees. Until the young trees reach their fifth or sixth year, it is a better practice to manure them singly, by disturbing and forking in the manures around the stem, at a distance of from 1 to 1½ feet for each year of the tree's growth. After the sixth year the soil of a plantation is so thoroughly permeated by the roots of the trees that the artificial manures can be distributed over the whole plantation."